WELDING JOURNAL INDEX

VOLUME 40—1961

PUBLISHED BY THE AMERICAN WELDING SOCIETY, 345 EAST 47TH STREET, NEW YORK 17, N. Y.

Welding Journal

This part includes general technical articles, papers presented before Section and National meetings, articles for the Practical Welder and Designer, news, biographical items, current welding literature and advertising.

Page allocation by issues

January	1–106	July	695–800
February	107–212	August	801–904
March	213–318	September	905–1006
April	319–488	October	1007–1110
May	489–592	November	1111–1212
June	593–694	December	1213–1253

Welding Research Supplement

This section includes the reports of the Welding Research Council, critical digests of the literature, reports of the Project Committees and research reports of industry.

Page allocation by issues

January	1-s–48-s	July	289-s–336-s
February	49-s–96-s	August	337-s–384-s
March	97-s–144-s	September	385-s–432-s
April	145-s–192-s	October	433-s–480-s
May	193-s–240-s	November	481-s–528-s
June	241-s–288-s	December	529-s–568-s

WELDING JOURNAL

SUBJECT INDEX

Aircraft and Missile Industry, Inert-Gas Spot Welding in the—R. L. HACKMAN, 25–33.

Aircraft Nuclear Propulsion Power Plant, Insulation Attachment by Welding for—R. J. CAMPBELL and T. D. McLAY, 1019–1028.

*All-Welded Aluminum Deck Housing for New Cargo Ships, 1254-1255.

*Aluminum Back-Up Bar for Automatic Metal-Arc Gas-Shielded Welding—C. M. JENKINS, 250–251.

Aluminum Gondola Cars, Welding of—W. G. BOESE and B. KARNISKY, 1137–1153.

*Aluminum, Metalworking Progress Report: Square-Butt Welding of, 634–635.

*Arc-Welded Girders in Rail Bridge—H. S. DEWDNEY and C. L. STOCKER, 386–387.

*Arteries for a Stratofort—G. R. CLAY and J. C. RODGERS, 747–748.

*Automatic Metal-Arc Gas-Shielded Welding, Aluminum Back-Up Bar for—C. M. JENKINS, 250–251.

Automatic Process for Welding Girth Joints in Steel Pipelines—H. C. COOK, G. E. FAULKNER, J. W. NELSON and P. J. RIEPPEL, 813–820.

*Better Docks for Better Boating, 848.

Blast Furnace Bells and Hoppers, Hardsurfacing of—N. FRAGASSE and F. J. GAYDOS, 18–24.

*Bonuses from Welding with CO_2 and Flux-Cored Wire, 41.

Brazing Alloys, Vacuum Melting Produces Cleaner, Better Performing High-Temperature—C. R. BENSON, 232–236.

Brazing Filler Metals for High Temperature Service Applications, Importance of Purity in Manufacturing—F. M. MILLER, 821–827.

Brazing of Sandwich Structures of Columbium Alloys—M. M. SCHWARTZ, 377–382.

*Canadian Truck Body Builder Cuts Costs to Customer, 152–153.

Carbon-Steel Structures, Role of the Engineer in Designing for—J. F. LINCOLN, 383–384.

Columbium Alloys, Brazing of Sandwich Structures of—M. M. SCHWARTZ, 377–382.

Consumable Electrode Spot Welding—J. A. HOWERY and G. F. MACK, 714–722.

*Controls Wind Tunnel Air Flow at 2500° F, 43.

Corrugated Monel Heat Exchangers—J. F. O'CONNELL, N. J. RITCHEY and J. C. STEWART, 934–941.

*CO_2 and Flux-Cored Wire, Bonuses from Welding with, 41.

CO_2-Shielded Welding of Horizontal Joints in Oil Storage Tanks—P. W. TURNER, 707–713.

*CO_2 Welding Equals 1025 Refrigerated Cars, 845–846.

Creative Architectural Design with Welded Space Structures—M. P. KORN, 343–348.

*Cut-Down Reducer Adapts Old Pipe to Modern Valve, 635.

*Cutting Torch Rotating Machine Speeds Weld Preparation, 846–847.

*Demineralizer for Nuclear Destroyer Requires Careful Planning, 1059–1060.

Double-Taper Tungsten-Arc Welding Control—A. DIXON, 1029–1034.

Economic Processing of Weldments—G. A. MATTHEWS, 1042–1044.

Electrical and Metallurgical Factors Influencing Welding Arc Stability—J. E. GINN, 942–946.

* A "Practical Welder and Designer" article.

Electron Beam—A Revolution in Welding—E. R. AEMISEGGER, JR. and H. A. NYENHUIS, 1240–1245.
*Emergency Repair of Hospital X-Ray Equipment, 385–386.
Enclosed Welding Technique Applied to Welding of Reinforcing Bars—W. P. CAMPBELL, 629–633.

Fabrication of One-Inch Thick, Ten-Inch Diameter Welded Inconel Pipe—W. L. FLEISCHMANN and R. F. GURNEA, 620–628.
Ferritic Welding of Steel Armor—Z. J. FABRYKOWSKI, 339–342.
*Flash Welding Beats Shipyard Problem, 1163.
*Flux-Cored Welding Process Speed Fabrication at Naval Weapons Plant, Self-Contained Mobile Rigs for, 738.

Gas Metal-Arc Welding Aluminum with Large Diameter Fillers—J. A. LIPTAK, 917–927.
Gas-Shielded Consumable Electrode Arc Spot Welding in Industry—R. P. SULLIVAN, 1130–1136.
*Gas Welding Goes Collegiate, 1051.
*Geared for Production—R. E. MCLANE and P. T. SESSIONS, JR., 739–740.

Hard Surfacing of Blast Furnace Bells and Hoppers—N. FRAGASSE, 18–24.
*Hard Surfacing Doubles Tractor Roller Life, 1057.
*Hard Surfacing Wards Off Wear During Roof Shingle Manufacture, 1255.
*Heavy Composite Column is Shop Welded for Building, 847–848.
Heavy-Duty Constricted Tungsten-Arc Cutting—H. B. BOTT and W. A. GEIDEMAN, 132–140.
Heavy Plate Girders, Special Welding Techniques Minimize Stresses and Distortion in—P. DREIER and C. M. DICK, JR., 1225–1228.
High-Purity Argon Protects Difficult-To-Braze Metals—J. W. HILL, 1035–1041.
High-Temperature Service Applications, Importance of Purity in Manufacturing Brazing Filler Metals for—F. M. MILLER, 821–827.
*Highway Tunnel Has Welded Tube—J. F. GULLEY, 736–737.
*Hospital X-Ray Equipment, Emergency Repair of, 385–386.

Importance of Purity in Manufacturing Brazing Filler Metals for High Temperature Service Applications—F. M. MILLER, 821–827.
Inconel Deposited Weld Metal for Nuclear Component Parts, Use of—R. W. MINGA and W. H. RICHARDSON, 726–735.
Inconel Pipe, Fabrication of—W. L. FLEISCHMANN and R. F. GURNEA, 620–628.
Inert-Gas Spot Welding in the Aircraft and Missile Industry—R. L. HACKMAN, 25–33.
Insulation Attachment by Welding for an Aircraft Nuclear Propulsion Power Plant—R. J. CAMPBELL and T. D. MCLAY, 1019–1028.
*Into the Winner's Circle—J. R. FLYNN and R. M. STUCHELL, 749.
Is Habit Needlessly Increasing the Cost of Out-of-Position Welding?—J. E. HINKEL, 605–609.

*Karting is Contagious, 153.

Lathe Redesign in Welding Steel Achieves Cleaner Lines and Lower Cost—E. DUESING, 244–248.
*Low-Cost Cost Reductions, 1060.

Magnetic-Flux Gas-Shielded Arc Welding, Today's Industrial Role of—R. T. TELFORD, 237–243.
*Mechanized Welding, Stadium Has Stepped Deck Plates Assembled by—R. ASCHINGER, 1052–1053.
Metallizing Nickel Powder—W. B. KEYSER, 229–231.
*Metalworking Progress Report: Square-Butt Welding of Aluminum, 634–635.
Missile Fins, Series Spot Welding—D. W. HEROLD, 723–725.

Nickel Powder, Metallizing—W. B. KEYSER, 229–231.
*Nickel-Silver Alloy with Automatic Fluxing System Beats Production Problems—L. S. WADE, 948–950.
Nondestructive Testing is Key to Future of Welding Quality Control—G. J. GIBSON, 225–228.
Nuclear Component Parts, Use of Inconel Deposited Weld Metal for—R. W. MINGA and W. H. RICHARDSON, 726–735.
*Nuclear Destroyer Requires Careful Planning, Demineralizer for, 1059–1060.

Oil Storage Tanks, CO_2-Shielded Welding of Horizontal Joints in—P. W. TURNER, 707–713.
*One Piece Welded Machine Housing—Stronger, Lighter, Lower in Cost, Better Looking, 742.
Optical Scanning of Welds—M. J. GRYCKO, 1237–1239.
Oxy-Fuel Gas Flame, Single-Pass "J" Grooving in Heavy Plate with an—C. B. MILTON, 331–338.

Piers, Welding of Massive Manganese-Vanadium Steel Assemblies for Verrazano-Narrows Bridge Tower—I. DIAMOND, 359–362.
Pittsburg Public Auditorium Retractable Roof—E. COHEN and R. H. GOLDSMITH, 501–516.
Plutonium Recycle Program UO_2 Fuel Element Fabrication, Zircaloy Welding Techniques Developed for—L. E. MILLS, 141–151.
*Positioner Improves Welding of Shuttle Cars, 750.
Practical Design Approach to Resistance Weld Peeling Loads—W. P. KRAUS, 1045–1050.
Pressure Vessel, Production Welding of Thin-Walled—T. J. BOSWORTH and D. S. HEMMINGER, 125–131.
Primary Piping System of the Yankee Atomic Electric Plant—R. A. LOOSE and R. R. ROTHERMEL, 119–124.
Principles of Template Preparation for the Oxygen Cutting Process—L. M. LAYDEN, 34–40.
Production Welding of Thin-Walled Pressure Vessels—T. J. BOSWORTH and D. S. HEMMINGER, 125–131.
Projection Welding Low-Carbon Steel Using Embossed Projects—J. F. HARRIS and J. J. RILEY, 363–376.

*Rail Bridge, Arc-Welded Girders in—H. S. DEWDNEY and C. L. STOCKER, 386–387.
*Redesign Reduces Costs, 250.
*Refrigerated Cars, CO_2 Welding Equals 1025, 845–846.
Reinforcing Bars, Enclosed Welding Technique Applied to Welding of—W. P. CAMPBELL, 629–633.
Repair of Kraft Digesters by Welded Overlay—H. C. CAMPBELL and W. L. WILCOX, 839–844.
Resistance Autobrazing of Wires to Intermetallic Thermoelectric Materials—W. A. OWCZARSKI, 517–521.
Resistance Weld Peeling Loads, A Practical Design Approach to—W. P. KRAUS, 1045–1050.
Retractable Roof, Pittsburgh Public Auditorium—E. COHEN and R. H. GOLDSMITH, 501–516.
*Riveting Machine Combines Welded Frame and Steel Castings—J. HANNA, 1054–1057.
Role of the Engineer in Designing for Carbon Steel Structures—J. F. LINCOLN, 383–384.
Root-Pass Procedures for Inert-Arc Field Welding of Titanium—W. J. LEONARD, 1246–1253.

*Self-Contained Mobile Rigs for Flux-Cored Welding Process Speed Fabrication at Naval Weapons Plant, 738.
Semi-Automatic Gas Tungsten-Arc Spot Welding of Stainless Steels and High-Temperature Alloys—R. J. CAMPBELL and D. R. MILLER, 828–838.
Series Spot Welding of Missile Fins—D. W. HEROLD, 723–725.
*Shuttle Cars, Positioner Improves Welding of, 750.
Silicon—The Key to a Reliable Welding Power Source—L. F. PETTIT, 1154–1158.
Single-Pass "J" Grooving in Heavy Plate with an Oxy-Fuel Gas Flame—C. B. MILTON, 331–338.

* A "Practical Welder and Designer" article.

*Skill with a Skillet—R. W. BRANDENSTEIN and J. A. WENDEL, 947–948.
*Snaking Rugged Piping Across Rugged Terrain, 740–742.
*Soldering Machine Revolutionizes Radiator Manufacture, 1058–1059.
Space Structures, Creative Architectural Design with Welded—M. P. KORN, 343–348.
Special Welding Techniques Minimize Stresses and Distortion in Heavy Plate Girders—P. DREIER and C. M. DICK, JR., 1225–1228.
Spot Welding, Consumable Electrode—J. A. HOWERY and G. F. MACK, 714–722.
*Square-Butt Welding of Aluminum, Metalworking Progress Report, 634–635.
*Stadium Addition Has Stepped Deck Plates Assembled by Mechanized Welding—R. ASCHINGER, 1052–1053.
*Stainless Steel Coil Permits Internal Cooling of Unique Welder Ignitron with Help of Tungsten-Arc Welding, 530–531.
Steel Armor, Ferritic Welding of—Z. J. FABRYKOWSKI, 339–342.
Steel Pipelines, Automatic Process for Welding Girth Joints in—H. C. COOK, G. E. FAULKNER, J. W. NELSON and P. J. RIEPPEL, 813–820.
*Stratofort, Arteries for—G. R. CLAY and J. C. RODGERS, 747–748.

Template Preparation for the Oxygen Cutting Process, Principles of—L. M. LAYDEN, 34–40.
*Template Technique Solves Tricky Problem, 1164–1165.
*Thin-Skinned Avengers—E. L. TRIMBLE, 42.
Titanium, Root-Pass Procedures for Inert-Arc Field Welding of—W. J. LEONARD, 1246–1253.
Today's Industrial Role of Magnetic-Flux Gas-Shielded Arc Welding—R. T. TELFORD, 237–243.
Tooling for Inert Gas Welding—F. J. PILIA and H. G. RATH, 1229–1236.
*Tractor Roller Life, Hard Surfacing Doubles, 1057.
Tungsten-Arc Cutting, Heavy-Duty Constricted—H. B. BOTT and W. A. GEIDEMAN, 132–140.
*Tungsten-Arc Welding Saves Trucking Firm $3000, 249.
Tungsten-Arc Spot Welding of Stainless Steel and High Temperature Alloys, Semi-Automatic Gas—R. J. CAMPBELL and D. R. MILLER, 828–838.
*Tungsten-Arc Welding, Stainless Steel Coil Permits Internal Cooling of Unique Welder Ignitron with Help of, 530–531.
Turbine Wheel, A Welded Tubular-Bucketed—E. J. CLARK, 522–528.

Ultrasonic Welding Engineering, Manufacturing and Quality Control Problems—J. KOZIARSKI, 349–358.
UO_2 Fuel Element Fabrication, Zircaloy Welding Techniques Developed for Plutonium Recycle Program—L. E. MILLS, 141–151.
Use of Inconel Deposited Weld Metal for Nuclear Component Parts—R. W. MINGA and W. H. RICHARDSON, 726–735.
Use of Welding to Produce Intricate Shapes—Steel Founders Society of America, 928–933.

Vacuum Melting Produces Cleaner, Better Performing High-Temperature Brazing Alloys—C. R. BENSON, 232–236.
Vapor-Shielded Arc Welding at 200 ipm—R. A. WILSON, 13–17.

Welded Overlay, Repair of Kraft Digesters by—H. C. CAMPBELL and W. L. WILCOX, 839–844.
Welded Space Structures, Creative Architectural Design with—J. A. HOWERY and G. F. MACK, 714–722.
*Welded Steel Office Buildings—J. F. GULLEY, 529–530.
Welded Tubular-Bucketed Turbine Wheel—E. J. CLARK, 522–528.
Welding Aluminum Gondola Cars—W. G. BOESE and B. KARINSKY, 1137–1153.
Welding Keeps Oil Refinery Mechanical Equipment Operating—R. M. KOLB, 1123–1129.
Welding of Massive Manganese-Vanadium Steel Assemblies for Verrazano-Narrows Bridge Tower Piers—IRVING DIAMOND, 359–362.
*Welding Speeds Strip Mill Construction, 1053–1054.
Weldments, Economic Processing of—G. A. MATTHEWS, 1042–1044.
Where Two-Column Welding Machines Stand Today—F. P. JACOB, 618–619.
"Wide-Gap" Brazing for High-Temperature Service—G. S. HOPPINS, III and P. R. MOBLEY, 610–617.

Zircaloy Welding Techniques Developed for Plutonium Recycle Program UO_2 Fuel Element Fabrication—L. E. MILLS, 141–151.

AUTHOR INDEX

AEMISEGGER, E. R., JR.—Electron Beam—A Revolution in Welding, 1240–1245.
*ASCHINGER, R.—Stadium Addition Has Stepped Deck Plates Assembled by Mechanized Welding, 1052–1053.

BENSON, C. R.—Vacuum Melting Produces Cleaner, Better Performing High-Temperature Brazing Alloys, 232–236.
BOESE, W. G.—Welding of Aluminum Gondola Cars, 1137–1153.
BOSWORTH, T. J.—Production Welding of Thin-Walled Pressure Vessels, 125–131.
BOTT, H. B.—Heavy-Duty Constricted Tungsten-Arc Cutting, 132–140.
*BRANDENSTEIN, R. W.—Skill with a Skillet, 947–948.

CAMPBELL, H. C.—Repair of Kraft Digesters by Welded Overlay, 839–844.
CAMPBELL, R. J.—Semi-Automatic Gas Tungsten-Arc Spot Welding of Stainless Steels and High-Temperature Alloys, 828–838.
Insulation Attachment by Welding for an Aircraft Nuclear Propulsion Power Plant, 1019–1028.
CAMPBELL, W. P.—Enclosed Welded Technique Applied to Welding of Reinforcing Bars, 629–633.
CLARK, E. J.—A Welded Tubular-Bucketed Turbine Wheel, 522–528.
*CLAY, G. R.—Arteries for a Stratofort, 747–748.
COHEN, E.—Pittsburgh Public Auditorium Retractable Roof, 501–516.
COOK, H. C.—An Automatic Process for Welding Girth Joints in Steel Pipelines, 813–820.

*DEWDNEY, H. S.—Arc-Welded Girders in Rail Bridge, 386–387.
DIAMOND, IRVING—Welding of Massive Manganese-Vanadium Steel Assemblies for Verrazano—Narrows Bridge Tower Piers, 359–362.
DICK, C. M.—Special Welding Techniques Minimize Stresses and Distortion in Heavy Plate Girders, 1225–1228.
DIXON, A.—A Double-Taper Tungsten-Arc Welding Control, 1029–1034.
DREIER, P.—Special Welding Techniques Minimize Stresses and Distortion in Heavy Plate Girders, 1225–1228.
DUESING, E.—Lathe Redesign in Welded Steel Achieves Cleaner Lines and Lower Cost, 244–248.

*A "Practical Welder and Designer," article.

FABRYKOWSKI, Z. J.—Ferritic Welding of Steel Armor, 339–342.
FAULKNER, G. E.—An Automatic Process for Welding Girth Joints in Steel Pipelines, 813–820.
FLEISCHMANN, W. L.—Fabrication of One-Inch Thick, Ten-Inch Diameter Welded Inconel Pipe, 620–628.
*FLYNN, J. R.—Into the Winner's Circle, 749.
FRAGASSE, NELLO—Hard Surfacing of Blast Furnace Bells and Hoppers, 18–24.

GAYDOS, F. J.—Hard Surfacing of Blast Furnace Bells and Hoppers, 18–24.
GEIDEMAN, W. A.—Heavy-Duty Constricted Tungsten-Arc Cutting, 132–140.
GIBSON, G. J.—Nondestructive Testing is Key to Future of Welding Quality Control, 225–228.
GINN, J. E.—Electrical and Metallurgical Factors Influencing Welding Arc Stability, 942–946.
GOLDSMITH, R. H.—Pittsburgh Public Auditorium Retractable Roof, 501–516.
GRYCKO, M. J.—Optical Scanning of Welds, 1237–1239.
*GULLEY, J. F.—Welded Steel Office Buildings, 529–530. Highway Tunnel Has Welded Tube, 736–737.
GURNEA, R. F.—Fabrication of One-Inch Thick, Ten-Inch Diameter Welded Inconel Pipe, 620–628.

HACKMAN, R. L.—Inert-Gas Spot Welding in the Aircraft and Missile Industry, 25–33.
*HANNA, J.—Riveting Machine Combines Welded Frame and Steel Castings, 1054–1057.
HARRIS, J. F.—Projection Welding Low-Carbon Steel Using Embossed Projects, 363–376.
HEMMINGER, D. S.—Production Welding of Thin-Walled Pressure Vessels, 125–131.
HEROLD, D. W.—Series Spot Welding of Missile Fins, 723–725.
HILL, J. W.—High-Purity Argon Protects Difficult-To-Braze Metals, 1035–1041.
HINKEL, J. E.—Is Habit Needlessly Increasing the Cost of Out-of-Position Welding?, 605–609.
HOPPIN, III, G. S.—"Wide-Gap" Brazing for High-Temperature Service, 610–617.
HOWERY, J. A.—Consumable Electrode Spot Welding, 714–722.

JACOB, F. P.—Where Two-Column Welding Machines Stand Today, 618–619.
*JENKINS, C. M.—An Aluminum Back-Up Bar for Automatic Metal-Arc Gas-Shielded Welding, 250–251.

KARNISKY, B.—Welding of Aluminum Gondola Cars, 1137–1153.
KEYSER, W. B.—Metallizing Nickel Powder, 229–231.
KOLB, R. M.—Welding Keeps Oil Refinery Mechanical Equipment Operating, 1123–1129.
KORN, M. P.—Creative Architectural Design with Welded Space Structures, 343–348.
KOZIARSKI, J.—Ultrasonic Welding Engineering, Manufacturing and Qaulity Control Problems, 349–358.
KRAUS, W. P.—A Practical Design Approach to Resistance Weld Peeling Loads, 1045–1050.

LAYDEN, L. M.—Principles of Template Preparation for the Oxygen Cutting Process, 34–40.
LEONARD, W. J.—Root-Pass Procedures for Inert-Arc Field Welding of Titanium, 1246–1253.
LINCOLN, J. F.—Role of the Engineer in Designing for Carbon-Steel Structures, 383–384.
LIPTAK, J. A.—Gas Metal-Arc Welding Aluminum with Large Diameter Fillers, 917–927.
LOOSE, R. A.—Primary Piping System of the Yankee Atomic Electric Plant, 119–124.

MACK, G. F.—Consumable Electrode Spot Welding, 714–722.
MATTHEWS, G. A.—Economic Processing of Weldments, 1042–1044.
*MCLANE, R. E.—Geared For Production, 739–740.
MCLAY, T. D.—Insulation Attachment by Welding for An Aircraft Nuclear Propulsion Power Plant, 1019–1028.
MILLER, D. R.—Semi-Automatic Gas Tungsten-Arc Spot Welding of Stainless Steels and High-Temperature Alloys, 828–838.
MILLER, F. M.—Importance of Purity in Manufacturing Brazing Filler Metals for High-Temperature Service Applications, 821–827.
MILLS, L. E.—Zircaloy Welding Techniques Developed for Plutonium Recycle Program UO_2 Fuel Element Fabrication, 141–151.
MILTON, C. B.—Single-Pass "J" Grooving in Heavy Plate with an Oxy-Fuel Gas Flame, 331–338.
MINGA, R. W.—Use of Inconel Deposited Weld Metal for Nuclear Component Parts, 726–735.
MOBLEY, P. R.—"Wide-Gap" Brazing for High-Temperature Service, 610–617.

NELSON, J. W.—An Automatic Process for Welding Girth Joints in Steel Pipelines, 613–620.
NYENHUIS, H. A.—Electron Beam—A Revolution in Welding, 1240–1245.

O'CONNELL, J. F.—Corrugated Monel Heat Exchanger, 934–941.
OWCZARSKI, W. A.—Resistance Autobrazing of Wires to Intermetallic Thermoelectric Materials, 517–521.

PETTIT, L. F.—Silicon—The Key to a Reliable Welding Power Source, 1154–1158.
PILIA, F. J.—Tooling for Inert Gas Welding, 1229–1236.

RATH, H. G.—Tooling for Inert Gas Welding, 1229–1236.
RICHARDSON, W. H.—Use of Inconel Deposited Weld Metal for Nuclear Component Parts, 726–735.
RIEPPEL, P. J.—An Automatic Process for Welding Girth Joints in Steel Pipelines, 813–820.
RILEY, J. J.—Projection Welding Low-Carbon Steel Using Embossed Projects, 363–376.
RITCHEY, N. J.—Corrugated Monel Heat Exchanger, 934–941.
*RODGERS, J. C.—Arteries for a Stratofort, 747–748.
ROTHERMEL, R. R.—Primary Piping System of the Yankee Atomic Electric Plant, 119–124.

SCHWARTZ, M. M.—Brazing of Sandwich Structures of Columbium Alloys, 377–382.
*SESSIONS, JR., P. T.—Geared for Production, 739–740.
STEEL FOUNDERS SOCIETY OF AMERICA—Use of Welding to Produce Intricate Shapes, 928–933.
STEWART, J. C.—Corrugated Monel Heat Exchanger, 934–941.
*STOCKER, C. L.—Arc-Welded Girders in Rail Bridge, 386–387.
*STUCHELL, R. M.—Into the Winner's Circle, 749.
SULLIVAN, R. P.—Gas-Shielded Consumable Electrode Arc Spot Welding in Industry, 1130–1136.

TELFORD, R. T.—Today's Industrial Role of Magnetic-Flux Gas-Shielded Arc Welding, 237–243.
*TRIMBLE, E. L.—Thin-Skinned Avengers, 42.
TURNER, P. W.—CO_2-Shielded Welding of Horizontal Joints in Oil Storage Tanks, 707–713.

*WADE, L. S.—Nickel-Silver Alloy with Automatic Fluxing System Beats Production Problems, 948–950.
*WENDEL, J. A.—Skill with a Skillet, 947–948.
WILCOX, W. L.—Repair of Kraft Digesters by Welded Overlay, 839–844.
WILSON, R. A.—Vapor-Shielded Arc Welding at 200 ipm, 13–17.

* "A Practical Welder and Designer," article.

WELDING RESEARCH SUPPLEMENT

SUBJECT INDEX

Accelerated Cooling of Carbon Steels for Pressure Vessels—D. A. CANONICO, E. H. KOTTCAMP and R. D. STOUT, 400-s to 404-s.
Aluminum Alloy (2219), Application to Missile Pressure-Vessel Fabrication—C. H. CRANE and W. G. SMITH, 33-s to 40-s.
Aluminum Alloys, Effects of Repeated Repair Welding—F. G. NELSON, 166-s to 168-s.
Aluminum Sheet, Welded, The Hydraulic Bulge Test for—I. B. ROBINSON, F. R. COLLINS and J. D. DOWD, 540-s to 545-s.
Argon-Shielded Alternating Current Metal-Arc Welding—C. R. SIBLEY, 481-s to 488-s.
Armor Weldments, Notched Longitudinal-Bend Specimens for Evaluation of—S. M. SILVERSTEIN, R. P. SOPHER and P. J. RIEPPEL, 13-s to 117-s.

Backing Double-Vee Weld Joints in Steel Plate, New Method of—J. N. CORDEA, R. M. EVANS and P. J. RIEPPEL, 433-s to 440-s.
Beryllium Brazing of for High-Temperature Service—S. R. MALOOF and J. B. COHEN, 118-s to 122-s.
Brazing Alloy Elements into Heat-Resisting Alloys—W. FEDUSKA, 81-s to 89-s.
Brazing Alloys Having Ductility, Development of New Nickel Base—R. A. LONG, 259-s to 264-s.
Brazing Alloys, Recent Progress in Development of Self-Fluxing Air Proof—N. BREDZS and H. SCHWARTZBART, 123-s to 129-s.
Brazing of Beryllium for High-Temperature Service—S. R. MALOOF and J. B. COHEN, 118-s to 122-s.
Brazing, Exothermic—R. A. LONG, 346-s to 350-s.
Brittle Crack Initiation and Propagation, Theory of—YOSHIO AKITA and KAZUO IKEDA, 138-s to 144-s.
Brittle Failure of Steel Stack—M. ZAR and M. H. GOEDJEN, 371-s to 376-s.
Brittle Fracture Characteristics of a Reactor Pressure Vessel Steel—E. T. WESSEL and W. H. PRYLE, 41-s to 48-s.
Brittle Fracture, Static, Initiation Without Residual Stresses—C. MYLONAS, 516-s to 520-s.
Brittle Fracture in Welded Steel Plates, Influence of Residual Stresses and Metallurgical Changes on—A. A. WELLS, 182-s to 192-s.

CO_2-Shielded-Arc Welding, Some Metallurgical Aspects of—M. D. RANDALL, P. J. RIEPPEL, S. L. HOYT and A. F. CHOUINARD, 169-s to 174-s.
Carbon Dixoide Shielded Metal Arc Welding, Electrode for Spatter-Free Welding of Steel in—E. CUSHMAN, 14-s to 21-s.
Carbon Steels for Pressure Vessels, Accelerated Cooling of—D. A. CANONICO, E. H. KOTTCAMP and R. D. STOUT, 400-s to 404-s.
Center Notch-Tensile Test to Evaluate Rocket-Chamber Materials—J. J. WARGA, 130-s to 134-s.
Chromium ($2^1/_4\%$)– 1% Molybdenum, High Strength Materials, Properties and Fabrication of—R. C. GRIFFIN and G. N. EMMANUEL, 393-s to 399-s.
Constructional Alloy Steels, Study of the Causes of Cracking Submerged-Arc Welds in—M. D. RANDALL, R. E. MONROE and H. J. NICHOLS 385-s to 392-s.
Constructional Alloy Steels, Transition-Temperature Correlations in—G. M. ORNER and C. E. HARTBOWER, 459-is to 467-s.
Corner Connections Loaded in Tension, An Investigation of—A. A. TOPRAC, 521-s to 528-s.
Cracking in Heat-Affected Zone, Weldability Prediction from Steel Composition to Avoid—K. WINTERTON, 253-s to 258-s.
Cracking in Submerged-Arc Welds in Constructional Alloy Steels, Study of the Causes of—M. D. RANDALL, R. E. MONROE and H. J. NICHOLS, 385-s to 392-s.

Delayed Cracking and Hydrogen in Steel Weldments—E. P. BEACHUM, H. H. JOHNSON and R. D. STOUT, 155-s to 159-s.
Diffusion Bonding of Zircaloy Plate-Type Fuel Elements—W. LEHRER and H. SCHWARTZBART, 66-s to 80-s.
Diffusion Nature of Brazing Alloy Elements into Heat-Resisting Alloys—W. FEDUSKA, 81-s to 89-s.
Dilatometric Characteristics of Welded Steels—L. F. BUBBA, H. H. JOHNSON and R. D. STOUT, 364-s to 370-s.
Ductility, Exhaustion by Hot Straining—An Explanation of Fracture Initiation Close to Welds—C. MYLONAS and K. C. ROCKEY, 306-s to 310-s.

E9018 Weld Metal, Yield Strength of—W. L. WILCOX and H. C. CAMPBELL, 193-s to 196-s.
Electrode Melting Rates During Submerged-Arc Welding, Observations on—M. H. ROBINSON, 503-s to 515-s.
Electrode for Spatter-Free Welding of Steel in Carbon Dioxide—E. CUSHMAN, 14-s to 21-s.
Electrodes, Crack-Resistant Evaluation for Welding HY-80—S. I. ROBERTS, 110-s to 112-s.
ESSO Test, a Theoretical Analysis of—YOSHIO AKITA and KAZUO IKEDA, 138-s to 144-s.
Exothermic Brazing—R. A. LONG, 346-s to 350-s.

Fatigue Behavior of Welded Joints in Reinforcing Bars for Concrete—W. W. SANDERS, JR., P. G. HOADLEY and W. H. MUNSE, 529-s to 535-s.
Filler Metals and Fluxes, Notes on the Assessment of—G. M. A. BLANC, J. COLBUS and C. G. KEEL, 210-s to 222-s.
Flash-Welded Molybdenum, Properties of—E. G. THOMPSON, H. BINDER and H. COLLINS, 160-s to 165-s.
Flash Welding, A Solution Adopted in Some Difficult Applications of—E. BYLIN, 229-s to 240-s.
Fracture Caused by Ductile-to-Brittle Transition under Residual Stresses—W. N. PLATTE, 135-s to 137-s.

Gas Mixtures in Shielded Arc Welding with Consumable Electrodes, Considerations on the Use of—L. WOLFF and M. KOMERS, 536-s to 539-s.

Heat Flow in Weldments, Dimensional, Experimental Determination of—S. S. WHITE, 317-s to 319-s.
Heat Treatment and Welding of 13% V – 11% Cr – 3% Al Titanium Base Sheet Alloy—F. A. CROSSLEY, J. F. RUDY and H. SCHWARTZBART, 447-s to 458-s.
High Impact Steels, Advancements in Submerged-Arc Welding of—R. A. KUBLI and W. B. SHARAV, 497-s to 502-s.
High-Strength Weld Metals, Studies of Hot Cracking in—H. W. MISHLER, R. E. MONROE and P. J. RIEPPEL, 1-s to 7-s.
Hindered Contraction Weld Behavior—R. E. TRAVIS, J. M. BARRY, J. V. ROBINSON, W. G. MOFFATT and C. M. ADAMS, JR., 49-s to 56-s.
Hot Cracking in High-Strength Weld Metals—H. W. MISHLER, R. E. MONROE and P. J. RIEPPEL, 1-s to 7-s.
Hydraulic Bulge Test for Welded Aluminum Sheet—I. B. ROBINSON, F. R. COLLINS and J. D. DOWD, 540-s to 545-s.
Hydrogen and Delayed Cracking in Steel Weldments—E. P. BEACHUM, H. H. JOHNSON and R. D. STOUT, 155-s to 159-s.
Hydrogen in Arc Welding with Coated Electrodes—N. CHRISTENSEN, 145-s to 154-s.

Impact Data, Subsize, Effect of an Irregular Notch on—A. L. Lowe, Jr., 315-s to 316-s.
Inconel Alloy, Arc Welding of, for Nuclear Power Plants—J. Bland and W. A. Owczarski, 22-s to 32-s.
Induction Heated Pressure Butt Welding of Steel Pipe—S. G. Harris, 57-s to 65-s.

Longitudinal-Bend Notched Specimens for Evaluating Armor Weldments—S. M. Silverstein, R. P. Sopher and P. J. Rieppel, 113-s to 117-s.

Mild Steel Weld Metal Properties not Revealed by the All-Weld-Metal Tensile Test—K. Winterton, 106-s to 109-s.
Molybdenum, Properties of Flash-Welded—E. G. Thompson, H. Binder and H. Collins, 160-s to 165-s.
Molybdenum Welds Below 700° F, Mechanical Properties of—R. E. Pavlak, M. Christensen and A. L. Lowe, Jr., 197-s to 201-s.

Notch Sensitivity—F. A. McClintock, 202-s to 209-s.
Notch Toughness of Steel Weld Metal, Some Factors Affecting the—K. E. Dorschu and R. D. Stout, 97-s to 105-s.

Plasma-Sprayed Materials, Properties of—M. A. Levinstein, A. Eisenlohr and B. E. Kramer, 8-s to 13-s.
Plastics, Inspection and Measurements of Properties of Welds in—G. A. Homes, 223-s to 228-s.
Platinum Metals, Influence of, on the Wettability of Silver—J. B. Adamec and R. N. Rhoda, 330-s to 336-s.
Pressure Butt Welding of Steel Pipe Using Induction Heating—S. G. Harris, 57-s to 65-s.
Pressure Vessel Analysis of Submarine Hulls—Edward Link, Jr., 272-s to 288-s.
Pressure Vessel Design Requirements in the Future—W. B. Carleson, 265-s to 271-s.
Pressure Vessels, Accelerated Cooling of Carbon Steels for—D. A. Canonico, E. H. Kottcamp and R. D. Stout, 400-s to 404-s.
Projection Welding with Inserted Shim of Continuous Rod Mat—Keh-Chang Wu and R. E. Lewis, 441-s to 446-s.
Properties of Mild Steel Weld Metal Not Revealed by the All-Weld-Metal Tensile Test—K. Winterton, 106-s to 109-s.

Quenched and Tempered Steels in Ship Structure—T. J. Dawson, 175-s to 181-s.

Reinforcing Bars in Concrete, Fatigue Behavior of Welded Joints in—W. W. Sanders, Jr., P. G. Hoadley and W. H. Munse, 529-s to 535-s.
Repair Welding of Two Aluminum Alloys—F. G. Nelson, 166-s to 168-s.
Residual Stresses, Investigation of, by Use of Hydrogen Cracking—K. Masubuchi and D. C. Martin, 553-s to 563-s.
Residual Stresses in Metallurgical Changes, Influence of, on Low-Stress Brittle Fracture in Welded Steel Plates—A. A. Wells, 182-s to 192-s.
Residual Stresses, Static Brittle Fracture Initiation Without—C. Mylonas, 516-s to 520-s.
Residual Stresses in Welded Plates—N. R. Nagaraja Rao and L. Tall, 468-s to 480-s.
Rocket-Chamber Materials, Use of the Center Notch-Tensile Test for Evaluation of—J. J. Warga, 130-s to 134-s.

Sandwich Structures of Stainless Steel Using Low-Density Honeycomb Cores, Properties of—H. Smallen and W. F. Roberts, 90-s to 96-s.
Sandwich Structures, Superalloy Multilayer, for Application to 1800° F—H. Smallen, 423-s to 432-s.
Sheet Fracture Toughness Evaluated by Charpy Impact and Slow Bend—G. M. Orner and C. E. Hartbower, 405-s to 416-s.
Ship Structure, Quenched and Tempered Steels in—T. J. Dawson, 175-s to 181-s.
Shrinkage Distortion in Welded Structures, Effect of Welding Conditions on—M. Watanabe and K. Satoh, 377-s to 384-s.
Stainless Steel, PH 15-7 Mo Precipitation Hardening, Welding—H. Smallen, 324-s to 329-s.
Stainless Steel Sandwich Properties Using Low-Density Honeycomb Cores—H. Smallen and W. F. Roberts, 90-s to 96-s.
Stainless Steel, Welding 12% Chromium Martensetic—C. H. Kreischer, J. Cothren and A. E. Near, 489-s to 496-s.
Stainless-Steel Weldments, An Investigation of the Low-Temperature Impact Properties of—H. W. Mishle and H. J. Nichols, 564-s to 568-s.
Submerged-Arc Welding HY-80 Steel, Flux and Filler Wire Developments for—W. J. Lewis, G. E. Faulkner and P. J. Rieppel, 337-s to 345-s.
Submerged-Arc Welding of High Impact Steels, Advancements in—R. A. Kubli and W. B. Sharav, 497-s to 502-s.
Submerged-Arc Welding, Observations on Electrode Melting Rates During—M. H. Robinson, 503-s to 515-s.
Submerged-Arc Welds in Constructional Alloy Steels, Study of Causes of Cracking in—M. D. Randall, R. E. Monroe and H. J. Nichols, 385-s to 392-s.

Titanium-Base Alloy Ti – 13V – 11Cr – 13Al, Welding of—H. D. Kessler, 359-s to 362-s.
Titanium Base Sheet Alloy, Heat Treatment and Welding of—J. F. Rudy, F. A. Crossley and H. Schwartzbart, 447-s to 458-s.
Transition from Ductile-to-Brittle under Residual Stresses Caused Catastrophic Fracture—W. N. Platte, 135-to 137-s.
Transition-Temperature Correlations in Constructional Alloy Steels—G. M. Orner and C. E. Hartbower, 459-s to 467-s.
Transition Temperature from Test Bars Using a Strain Aged Initiation Site—C. Pfeiffer, 311-s to 314-s.

Ultra High Strength Steel for Missile Motor Cases, Welding of—J. F. Rudy, J. I. Fisher, J. P. Sheehan, F. Suyama and H. Schwartzbart, 241-s to 252-s.
Ultrasonic Welding of Heat Resisting Metals—N. E. Weare and R. E. Monroe, 351-s to 358-s.
Ultrasonic Welding, Phenomenological Considerations in—J. B. Jones, N. Maropis, J. G. Thomas and D. Bancroft, 289-s to 305-s.

Weldability—Application of 2219 Aluminum Alloy to Missile Pressure Vessel Fabrication—C. H. Crane and W. G. Smith, 33-s to 40-s.
Weldability—Arc Welding of a Ni-Cr-Ne (Inconel) Alloy for Nuclear Power Plants—Jay Bland and W. A. Owczarski, 22-s to 32-s.
Weldability of a Modified Hot-Work Die Steel—W. A. Sipes and E. J. Fogarty, 320-s to 323-s.
Weldability Prediction from Steel Composition to Avoid Heat-Affected Zone Cracking—K. Winterton, 253-s to 258-s.
Weld Behavior Fundamentals Under Hindered Contraction—R. E. Travis, J. M. Barry, J. V. Robinson, W. G. Moffatt and C. M. Adams, Jr., 49-s to 56-s.
Welding the Beta Titanium-Base Alloy Ti – 13V – 11 Cr – 3Al—H. D. Kessler, 359-s to 362-s.
Welding 12% Chromium Martensitic Stainless Steels—C. H. Kreischer, J. Cothren and A. E. Near, 489-s to 496-s.
Welding and Heat Treatment of 13%V – 11%Cr – 3% Al Titanium Base Sheet Alloy—J. F. Rudy, F. A. Crossley and H. Schwartzbart, 447-s to 458-s.
Welding Nodular Iron Without Post-Weld Annealing—R. C. Bates and F. J. Morley, Jr., 417-s to 422-s.
Welding PH 15-7 Mo Precipitation Hardening Stainless Steel—H. Smallen, 324-s to 329-s.
Welding of Titanium to Steel—D. R. Mitchell and H. D. Kessler, 546-s to 552-s.
Welding of an Ultra High Strength Steel for Missile Motor Cases—J. F. Rudy, J. I. Fisher, J. P. Sheehan, F. Suyama and H. Schwartzbart, 241-s to 252-s.
Weldments, An Investigation of the Low-Temperature Impact Properties of Stainless-Steel—H. W. Mishler and H. J. Nichols, 564-s to 568-s.
Wettability of Silver, Influence of Platinum Metals on—J. B. Adamec and R. N. Rhoda, 330-s to 336-s.

AUTHOR INDEX

ADAMEC, J. B.—Influence of Some Platinum Metals on the Wettability of Silver, 330-s to 336-s.
ADAMS, JR., C. M.—Fundamentals of Weld Behavior Under Hindered Contraction, 49-s to 56-s.
ADGATE, F. N.—A Method of Determining Primary Solid Solubility of an Alloy, 196-s and 222-s.
AKITA, Y.—Theory of Brittle Crack Initiation and Propagation—A Theoretical Analysis of ESSO Test, 138-s to 144-s.

BANCROFT, D.—Phenomenological Considerations in Ultrasonic Welding, 289-s to 305-s.
BARRY, J. M.—Fundamentals of Weld Behavior Under Hindered Contraction, 49-s to 56-s.
BATES, R. C.—Welding Nodular Iron Without Post-Weld Annealing, 417-s to 422-s.
BEACHUM, E. P.—Hydrogen and Delayed Cracking in Steel Weldments, 155-s to 159-s.
BINDER, H.—Properties of Flash-Welded Molybdenum, 160-s to 165-s.
BLANC, G. M. A.—Notes on the Assessment of Filler Metals and Fluxes, 210-s to 222-s.
BLAND, J.—Arc Welding of a Ni-Cr-Fe (Inconel) Alloy for Nuclear Power Plants, 22-s to 32-s.
BREDZS, N.—Recent Progress in Development of Self-Fluxing, Air Proof Brazing Alloys, 123-s to 129-s.
BUBBA, L. F.—Dialatometric Characteristics of Welded Steels, 364-s to 370-s.
BYLIN, E.—A Solution Adopted in Some Difficult Applications of Flash Welding, 229-s to 240-s.

CAMPBELL, H. C.—Yield Strength of E9018 Weld Metal, 193-s to 196-s.
CANONICO, D. A.—Accelerated Cooling of Carbon Steels for Pressure Vessels, 400-s to 404-s.
CARLSON, W. B.—Pressure Vessel Design Requirements in the Future, 265-s to 271-s.
CHOUINARD, A. F.—Some Metallurgical Aspects of CO_2-Shielded-Arc Welding, 169-s to 174-s.
CHRISTENSEN, M.—Mechanical Properties of Molybdenum Welds Below 700° F, 197-s to 201-s.
CHRISTENSEN, N.—The Role of Hydrogen in Arc Welding with Coated Electrodes, 145-s to 154-s.
COHEN, J. B.—Brazing of Beryllium for High-Temperature Service, 118-s to 122-s.
COLBUS, J.—Notes on the Assessment of Filler Metals and Fluxes, 210-s to 222-s.
COLLINS, F. R.—Hydraulic Bulge Test for Welded Aluminum Sheet, 540-s to 545-s.
COLLINS, H.—Properties of Flash-Welded Molybdenum, 160-s to 165-s.
CORDEA, J. N.—New Method of Backing Double-Vee Weld Joints in Steel Plate, 433-s to 440-s.
COTHREN, J.—Welding 12% Chromium Martensitic Stainless Steels, 489-s to 496-s.
CRANE, C. H.—Application of 2219 Aluminum Alloy to Missile Pressure-Vessel Fabrication, 33-s to 40-s.
CROSSLEY, F. A.—Heat Treatment and Welding of 13%V—11% Cr–3% Al Titanium Base Sheet Alloy, 447-s to 458-s.
CUSHMAN, E.—Electrode for Spatter-Free Welding of Steel in Carbon Dioxide, 14-s to 21-s.

DAWSON, T. J.—Quenched and Tempered Steels in Ship Structure, 175-s to 181-s.
DORSCHU, K. E.—Some Affecting the Notch Toughness of Steel Weld Metal, 97-s to 105-s.
DOWD, J. D.—Hydraulic Bulge Test for Welded Aluminum Sheet, 540-s to 545-s.

EISENLOHR, A.—Properties of Plasma-Sprayed Materials, 8-s to 13-s.
EMMANUEL, G. N.—Properties and Fabrication of High Strength 2¼% Chromium—1% Molybdenum Materials, 393–s to 399-s.
EVANS, R. M.—New Method of Backing Double-Vee Weld Joints in Steel Plate, 433-s to 440-s.

FAULKNER, G. E.—Flux and Filler-Wire Developments for Submerged-Arc Welding HY-80 Steel, 337-s to 345-s.
FEDUSKA, W.—The Nature of the Diffusion of Brazing Alloy Elements into Heat-Resisting Alloys, 81-s to 89-s.
FISHER, J. I.—Welding of an Ultra-High Strength Steel for Missile Motor Cases, 241-s to 252-s.
FOGARTY, E. J.—Weldability of a Modified Hot-Work Die Steel, 320-s to 323-s.

GOEDJEN, M. H.—Brittle Failure of Steel Stack, 371-s to 376-s.
GRIFFIN, R. C.—Properties and Fabrication of High Strength 2¼% Chromium – 1% Molybdenum Materials, 393-s to 399-s.

HARRIS, S. G.—Pressure Butt Welding of Steel Pipe Using Induction Heating, 57-s to 65-s.
HARTBOWER, CARL E.—Sheet Fracture Toughness Evaluated by Charpy Impact and Slow Bend, 405-s to 416-s.
Transition-Temperature Correlations in Constructional Alloy Steels, 459-s to 467-s.
HOADLEY, P. G.—Fatigue Behavior of Welded Joints in Reinforcing Bars for Concrete, 529-s to 535-s.
HOMES, G. A.—Inspection and Measurement of Properties of Welds in Plastics, 223-s to 228-s.
HOYT, S. L.—Some Metallurgical Aspects of CO_2–Shielded-Arc Welding, 169-s to 174-s.

IKEDA, KAZUO—Theory of Brittle Crack Initiation and Propagation—A Theoretical Analysis of ESSO Test, 138-s to 144-s.

JOHNSON, H. H.—Hydrogen and Delayed Cracking in Steel Weldments, 155-s to 159-s.
Dilatometric Characteristics of Welded Steels, 364-s to 370-s.
JONES, J. B.—Phenomenological Considerations in Ultrasonic Welding, 289-s to 305-s.

KEEL, C. G.—Notes on the Assessment of Filler Metals and Fluxes, 210-s to 222-s.
Kessler, H. D.—Welding the Beta Titanium-Base Alloy Ti – 13V – 11Cr – 3Al, 359-s to 363-s.
Welding of Titanium to Steel, 546-s to 552-s.
KOMERS, M.—Gas Mixtures in Shielded Arc Welding with Consumable Electrodes, 536-s to 539-s.
KOTTCAMP, E. H.—Accelerated Cooling of Carbon Steels for Pressure Vessels, 400-s to 404-s.
KRAMER, B. E.—Properties of Plasma-Sprayed Materials, 8-s to 13-s.
KREISCHER, C. H.—Welding 12% Chromium Martensitic Stainless Steels, 489-s to 496-s.
KUBLI, R. A.—Advancements in Submerged-Arc Welding of High-Impact Steels, 497-s to 502-s.

LEHRER, W.—Diffusion Bonding of Zircaloy Plate-Type Fuel Elements, 66-s to 80-s.
LEVINSTEIN, M. A.—Properties of Plasma-Sprayed Materials, 8-s to 13-s.
LEWIS, RICHARD E.—Inserted Shim Projection Welding of a Continuous Rod Mat, 441-s to 446-s.
LEWIS, W. J.—Flux and Filler-Wire Developments for Submerged-Arc Welding HY-80 Steel, 337-s to 345-s.
LONG, R. A.—Development of New Nickel-Base Brazing Alloys Having Ductility, 259-s to 264-s.
Exothermic Brazing, 346-s to 350-s.
LOWE, JR., A. L.—Mechanical Properties of Molybdenum Welds Below 700° F, 197-s to 201-s.
Effect of an Irregular Notch on Subsize Impact Data, 315-s to 316-s.

MALOOF, S. R.—Brazing of Beryllium for High-Temperature Service, 118-s to 122-s.
MAROPIS, N.—Phenomenological Considerations in Ultrasonic Welding, 289-s to 305-s.
MARTIN, D. C.—Investigation of Residual Stresses by Use of Hydrogen Cracking, 553-s to 563-s.
MASUBUCHI, K.—Investigation of Residual Stresses by Use of Hydrogen Cracking, 553-s to 563-s.
MCCLINTOCK, F. A.—On Notch Sensitivity, 202-s to 209-s.
MISHLER, H. W.—Studies of Hot Cracking in High-Strength Weld Metals, 1-s to 7-s.
Investigation of the Low-Temperature Impact Properties of Stainless-Steel Weldments, 564-s to 568-s.

MITCHELL, D. R.—Welding of Titanium to Steel, 546-s to 552-s.
MODLEN, G. F.—An Unusual Fracture, 65-s to 89-s.
MOFFATT, W. G.—Fundamentals of Weld Behavior Under Hindered Contraction, 49-s to 56-s.
MONROE, R. E.—Studies of Hot Cracking in High-Strength Weld Metals, 1-s to 7-s.
Ultrasonic Welding of Heat-Resisting Metals, 351-s to 358-s.
Study of the Causes of Cracking in Submerged-Arc Welds in Constructional Alloy Steels, 385-s to 392-s.
MORLEY, JR., F. J.—Welding Nodular Iron Without Post-Weld Annealing, 417-s to 422-s.
MUNSE, W. H.—Fatigue Behavior of Welded Joints in Reinforcing Bars for Concrete, 529-s to 535-s.
MYLONAS, C.—Exhaustion of Ductility by Hot Straining—An Explanation of Fracture Initiation Close to Welds, 306-s to 310-s.
Static Brittle Fracture Initiation Without Residual Stresses, 516-s to 520-s.

NEAR, A. E.—Welding 12% Chromium Martensitic Stainless Steels, 489-s to 496-s.
NELSON, F. G.—Effects of Repeated Repair Welding of Two Aluminum Alloys, 166-s to 168-s.
NICHOLS, H. J.—Study of the Causes of Cracking in Submerged-Arc Welds in Constructional Alloy Steels, 385-s to 392-s.
Investigation of the Low-Temperature Impact Properties of Stainless-Steel Weldments, 564-s to 568-s.

ORNER, G. M.—Sheet Fracture Toughness Evaluated by Charpy Impact and Slow Bend, 405-s to 416-s.
Transition-Temperature Correlations in Constructional Alloy Steels, 459-s to 467-s.
OWCZARSKI, W. A.—Arc Welding of a Ni-Cr-Fe (Inconel) Alloy for Nuclear Power Plants, 22-s to 32-s.

PAVLAK, R. E.—Mechanical Properties of Molybdenum Welds Below 700° F, 197-s to 201-s.
PFEIFFER, CLAES—Transition Temperature from Test Bars Using a Strain Aged Initiation Site, 311-s to 314-s.
PLATTE, W. N.—Catastrophic Fracture Caused by Ductile-to-Brittle Transition Under Residual Stresses, 135-s to 137-s.
PRYLE, W. H.—Brittle Fracture Characteristics of a Reactor Pressure-Vessel Steel, 41-s to 48-s.

RANDALL, M. D.—Some Metallurgical Aspects of CO_2-Shielded-Arc Welding, 169-s to 174-s.
Study of the Causes of Cracking in Submerged-Arc Welds in Constructional Alloy Steels, 385-s to 392-s.
RAO, NAGARAJA N. R.—Residual Stresses in Welded Plates, 468-s to 480-s.
RHODA, R. N.—Influence of Some Platinum Metals on the Wettability of Silver, 330-s to 336-s.
RIEPPEL, P. J.—Studies of Hot Cracking in High Strength Weld Metals, 1-s to 7-s.
Notched Longitudinal-Bend Specimens for Evaluating Armor Weldments, 113-s to 117-s.
Some Metallurgical Aspects of CO_2-Shielded-Arc Welding, 169-s to 174-s.
Flux and Filler-Wire Developments for Submerged-Arc Welding HY-80 Steel, 337-s to 345-s.
New Method of Backing Double-Vee Weld Joints in Steel Plate, 433-s to 440-s.
ROBERTS, S. I.—Evaluating Crack-Resistant Electrodes for Welding HY80, 110-s to 112-s.
ROBERTS, W. F.—Properties of Stainless Steel Sandwich Using Low-Density Honeycomb Cores, 90-s to 96-s.
ROBINSON, I. B.—Hydraulic Bulge Test for Welded Aluminum Sheet, 540-s to 545-s.
ROBINSON, J. V.—Fundamentals of Weld Behavior Under Hindered Contraction, 49-s to 56-s.
ROBINSON, M. H.—Observations of Electrode Melting Rates During Submerged-Arc Welding, 503-s to 515-s.
ROCKEY, K. C.—Exhaustion of Ductility by Hot Straining—An Explanation of Fracture Initiation Close to Welds, 306-s to 310-s.
RUDY, J. F.—Welding of an Ultra-High Strength Steel for Missile Motor Cases, 241-s to 252-s.
Heat Treatment and Welding of 13%V – 11% Cr-3% Al Titanium Base Sheet Alloy, 447-s to 458-s.

SANDERS, JR., W. W.—Fatigue Behavior of Welded Joints in Reinforcing Bars for Concrete, 529-s to 535-s.
SATOH, K.—Effect of Welding Conditions on the Shrinkage Distortion in Welded Structures, 377-s to 384-s.
SCHWARTZBART, H.—Diffusion Bonding of Zircaloy Plate-type Fuel Elements, 66-s to 80-s.
Recent Progress in Development of Self-Fluxing, Air Proof Brazing Alloys, 123-s to 129-s.
Welding of an Ultra-High Strength Steel for Missile Motor Cases, 241-s to 252-s.
Heat Treatment and Welding of 13%V – 11%Cr – 3% Al Titanium Base Sheet Alloy, 447-s to 458-s.
SHARAV, W. B.—Advancements in Submerged-Arc Welding of High-Impact Steels, 497-s to 502-s.
SHEEHAN, J. P.—Welding of an Ultra-High Strength Steel for Missile Motor Cases, 241-s to 252-s.
SIBLEY, C. R.—Argon-Shielded Alternating Current Metal-Arc Welding, 481-s to 488-s.
SILVERSTEIN, S. M.—Notched Longitudinal-Bend Specimens for Evaluating Armor Weldments, 113-s to 117-s.
SIPES, W. A.—Weldability of a Modified Hot-Work Die Steel, 320-s to 323-s.
SMALLEN, H.—Properties of Stainless Steel Sandwich Using Low-Density Honeycomb Cores, 90-s to 96-s.
Welding PH 15-7 Mo Precipitation Hardening Stainless Steel, 324-s to 329-s.
Superalloy Multilayer Sandwich Structures for Application to 1800° F, 423-s to 432-s.
SMITH, W. G.—Application of 2219 Aluminum Alloy to Missile Pressure-Vessel Fabrication, 33-s to 40-s.
SOPHER, R. P.—Notched Longitudinal-Bend Specimens for Evaluating Armor Weldments, 113-s to 117-s.
STOUT, R. D.—Some Factors Affecting the Notch Toughness of Steel Weld Metal, 97-s to 105-s.
Hydrogen and Delayed Cracking in Steel Weldments, 155-s to 159-s.
Dilatometric Characteristics of Welded Steels, 364-s to 370-s.
Accelerated Cooling of Carbon Steels for Pressure Vessels, 400-s to 404-s.
SUYAMA, F.—Welding of an Ultra-High Strength Steel for Missile Motor Cases, 241-s to 252-s.

TALL, L.—Residual Stresses in Welded Plates, 468-s to 480-s.
THOMAS, J. G.—Phenomenological Considerations in Ultrasonic Welding, 289-s to 305-s.
THOMPSON, ERNEST G.—Properties of Flash-Welded Molybdenum, 160-s to 165-s.
TOPRAC, A. A.—An Investigation of Corner Connections Loaded in Tension, 521-s to 528-s.
TRAVIS, R. E.—Fundamentals of Weld Behavior Under Hindered Contraction, 49-s to 56-s.

WARGA, J. J.—Use of the Center Notch-Tensile Test to Evaluate Rocket-Chamber Materials, 130-s to 134-s.
WATANABE, M.—Effect on Welding Conditions on the Shrinkage Distortion in Welded Structures, 377-s to 384-s.
WEARE, N. E.—Ultrasonic Welding of Heat-Resisting Metals, 351-s to 358-s.
WELLS, A. A.—Influence of Residual Stresses and Metallurgical Changes on Low-Stress Brittle Fracture in Welded Steel Plates, 182-s to 192-s.
WENK, JR., E.—Pressure Vessel Analysis of Submarine Hulls, 272-s to 288-s.
WESSEL, E. T.—Brittle Fracture Characteristics of a Reactor Pressure-Vessel Steel, 41-s to 48-s.
WHITE, S. S.—Experimental Determinations of Dimensional Heat Flow in Weldments, 317-s to 319-s.
WILCOX, W. L.—Yield Strength of E9018 Weld Metal, 193-s to 196-s.
WINTERTON, K.—Properties of Mild Steel Weld Metal Not Revealed by the All-Weld-Metal Tensile Test, 106-s to 109-s.
Weldability Prediction from Steel Composition to Avoid Heat-Affected Zone Cracking, 253-s to 258-s.
WOLFF, L.—Gas Mixtures in Shielded Arc Welding with Consumable Electrodes, 536-s to 539-s.
WU, KEH-CHANG—Inserted Shim Projection Welding of a Continuous Rod Mat, 441-s to 446-s.

ZAR, M.—Brittle Failure of Steel Stack, 371-s to 376-s.